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21 November 1960

**CHINA'S ACHIEVEMENTS IN NEUROLOGY  
ATTAINED BY STUDYING SOVIET EXPERIENCE  
IN THE PAST DECADE**

By Chu Yung-lien

- COMMUNIST CHINA -

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JPRS: 5914

CSO: 5133-N/b

CHINA'S ACHIEVEMENT IN NEUROLOGY  
ATTAINED BY STUDYING SOVIET EXPERIENCE  
IN THE PAST DECADE

[The following is a translation of an article written by Chu Yung-lien, Department of Neurology, Sino-Soviet Friendship Hospital, Peking, in Chung-hua Shen-ching Ching-shen-k'o Tsa-chih (Chinese Journal of Neurology and Psychiatry), Vol V, No 5, pages 322-325, Peiping, 1 Oct 1959.]

During the past decade under the Party's guide, Neurology, as various other studies in China, has attained a great deal of achievements by the study of Soviet medical experiences: By learning directly under the Soviet specialists and from literature together with expansions and explications of all aspects concerned, China's neurology has advanced remarkably both in therapeutics and research studies.

Based in part on material on hand, a report on the essentials our neurologists attained from Soviet

medical experience during the past decade is presented.

## I

Since liberation, Soviet Union with a most friendly internationalism has continuously sent its distinguished neurologists to China. Our achievements are inseparable from the industrious work of these people. Among them were Professors I. I. Rusetskii (1955-1957); N. S. Chetvirikov (1951-1953) and N. I. Golik (1954-1955); and specialists V. I. Stepin (1952-1955), A. E. Novorasov (1953-1954), E. M. Boeva (1956-1958), A. M. Chirkov (1955-1957), M. A. Dzukoeva (1955-1957), L. A. Basharin (1950-1954), E. V. Milyutina (1954-1955) and A. V. Gol'batsevich (1953-1955), etc. The work of these people has helped our neurologists tremendously in the study of Soviet medical ideas and therapeutic techniques.

In addition to guidance in medical technique and scientific research work, Soviet specialists also undertook the responsibility of training our neurological cadres. Many training classes were held in the Ex-Peking Soviet Red Cross Hospital, Peking Hospital and Ho-p'ing Hospital. One worth our special mention

was the senior teachers' training class in neurology organized in November 1956 and headed by Professor I. I. Rusetskii. Students came from 14 different provinces and municipalities and most of them were heads of neurology departments or divisions in various medical colleges and schools. There was a complete curriculum including also much of modern neurology such as electroencephalogram, pediatric neurology and vegetative neurology. Professor I. I. Rusetskii gave 22 lectures personally to the class on vegetative neurology, and the most talked about diseases of the cerebral blood vessels and peripheral nerves. Specialist E. M. Boeva lectured on pediatric neurology. At the present, students of this class are heading neurological work in various places all over the country. They are now the vigorous organizers and promoters of Soviet medical studies.

Professor N. I. Golik introduced systematically Soviet experience in relation to neurological infections, neurophysiotherapy and histopathology. Under his guidance, a neuropathology research division was established in the Department of Neurology of the Peking Medical College. He also helped revise the teaching outline of neurology and personally demonstrated the model tea-

ching in this respect. The sincerity of Professor N. S. Chetvirikov in his service to patients had, to the Chinese doctors, the most educational significance. He contributed a great deal in health work. Specialists V. I. Stepin and A. B. Gol'batsevich were brilliant in guiding Chinese medical workers in the study of Pavlov's theory as well as Pavlov's theory in correlation with clinical work. All the other specialists with their valuable experiences and clinical practice taught and guided us in public health work.

It should also be mentioned here that in 1957 when Professor A. V. Ki'yakov of the Correspondence Department of Soviet Academy of Medical Sciences came to China, he also gave a systematic lecture on neurophysiology the theoretical basis of neurology, and physiologist E. F. Suvorov helped the neurological workers even more with his lectures introducing the fundamentals of Pavlov's theory. The kind help these specialists bestowed to the Chinese people will always be remembered.

Soviet specialists also enthusiastically participated in the various activities of Chinese neurology and psychology societies such as the regular reports on the studies, etc. Professor I. I. Rusetskii was formally

elected in 1957 an honorary member of the Chinese Society of Neurology and Psychiatry and thereby the friendly cooperation between the neurologists and the psychiatrists of the two countries has stepped into a new era.

## II

Our neurological workers also studied Soviet medical literature extensively. After learning the Russian language for many years, many people can read Russian books directly. Since liberation, our medical publishing houses have made a great effort in translating specialty books. Chinese translations on Pavlov's original books alone already included complete collections and selections of Pavlov's work, Lectures on actions of the Cerebral Hemispheres, Lectures on Conditioned Reflexes, papers on higher nervous activity studies and other classic writings. "Correlation between Cerebral Cortex and Internal Organs" by K. M. Bbikov; "Pathological Physiology of Higher Nervous activity" by A. G. Ivanov-Smolenskii; "Localization Diagnosis of Diseases of the Nervous System" by A. V. Triumfov; "Neurology" by E. K. Sepp and "The Clinical and

Therapeutic Aspects of Progressive Muscular Atrophy" by S. N. Davilenkov; altogether several dozens of papers have been translated and published and are very helpful to us. Since 1955, China also published "Translations of Pavlov's theory on Higher Nervous Activity". Earlier, there was the periodical "Soviet Medicine" that published many translated papers on clinical neurology. In addition, excerpts on Soviet medicine were published on every issue of our own neurology and psychiatry journals. Soviet specialists in China also published some of their own papers in the Chinese Journal of Neurology and Psychiatry. For example, Professor I. I. Rusetskii's "Diencephalitis" (1957) and "Pain Syndrome" (1958); and A. M. Chirkov's "An Attempt in the Interpretation of the Pathological Physiology of Epilepsy from the Viewpoint of Pavlov's Theory" (1956) and "Hygiene on Mental Labor" (1956); etc. They introduced the latest Soviet viewpoints on these problems and helped us tremendously. To sum up, since liberation we have achieved a great deal in the study of Soviet medicine as the management of treatment, scholastic ideas as well as the therapeutic techniques.



### III

In clinical neurology, Chinese capitalist specialists of the past over-emphasized their own interests in rare diseases and neglected those most common ones that endangered people's health. They were very enthusiastic about clinical diagnosis but had little interest in therapeutic work. In regard to problems in neurology, they usually paid more attention to post-mortum pathological findings and seldom noticed neu-rophysiological processes during life. All of these harmful and abnormal idealistic thoughts had hindered the proper development of neurology in China.

Since liberation after we started studying Soviet medicine and learning from the Soviet specialists, we have attained a great<sup>deal</sup> of knowledge in foremost theories and practical experiences. Firstly in taking care of patients, Soviet specialists truly demonstrated their devotedness in a most responsible manner. In examinations and diagnosis, they dwelled upon all particulars thoroughly. Because of the correlation with Pavlov's theory, their diagnosis would be disease causing, localizing as well as symptomatic in nature revealing the characteristics of functional or organic changes in the

organism; and indicating also the reactivity of the organism itself, that is, the organism's self-defense and replacement abilities. Thus, their treatments were also most up to date and effective. The specialists repeatedly emphasized that we must "Treat the disease as well as the person". The human characteristics must be taken into consideration. Hence in treatment we should emphasize verbal communication, that is, psychotherapy. The human body is a complete unit that acts according to the higher nervous section, especially the activities of the cerebral cortex. Therefore in therapeutic measures, the cortical governing action on disease recovering must be considered. Since man is a social animal, the relation between man and his environment must also be taken into consideration, and a combined treatment should be employed. The treatment should also be different for each individual and not conform to any rules. This is to say, treatment should be given based on the principle of individual specification. Patients themselves should also be persuaded to join in the treatment. As the treatment progresses, self treatment should be altered according to changes in the patient's behavior by frequent examinations.

The specialists also emphasized dealing with crises. In this manner, recovery will usually be hastened with no recurrences. Therefore, in diagnosis, treatment or any other management, they all correlated with the advanced ideas of dispute over materialism--ideas of Pavlov's theory: organism as a complete unit; unification of the external and internal environments; regulation of the nervous activity on the basic processes of excitations and inhibitions; as well as the second signal system theory; etc. It has thus armed our neurological workers with ideas in neurography and brought forth methodology to neurology in China. It has enabled us to explain the clinical neurological problems for which formerly no explanations could be given and cure patients who could not be treated before. It has brought forth blessings to our patients who suffered from neurological diseases.

#### IV

In addition to the benefits obtained by the working attitude and therapeutic methodology cited above, other achievements in clinical and research work are as follows.

1. In regard to a correlation between the principles of Pavlov's theory and clinical work: The Chinese doctors of the Neurology Department of Ex-Peking Soviet Red Cross Hospital have completed the following papers under the supervision and assistance of V. I. Stepin, A. M. Chirkov and M. A. Dzukoeva: "Analysis of Two Cases of Nervous Vomiting Based on the Viewpoint of Pavlov's Theory" (1953) showing that a neutral substance could be disease producing through the formation of pathological conditioned reflexes of the internal organs; "Clinical Analysis of Sleep Hindrance" (1954) which completely disproved Economo's theory of the reactionary sleep center in the brain stem; "Analysis of Occupational Neurological Diseases Based on the Viewpoint of Pavlov's Theory" (1954) which reprimanded the capitalist scientists' erroneous belief that neurological diseases were phenomena resulting from not being able to satisfy desires; and "Analysis of Imperforated Extracranial Injuries Based on the Viewpoint of Pavlov's Theory" (1954); etc. It indicated that the Chinese neurological workers have already started to apply the knowledge gained through studying Pavlov's theory and learned from the Soviet specialists to their clinical

practice.

In another aspect of the study of Pavlov's theory, i. e. the conditioned reflex, as well as correlating the observations on cortical potentials with research work, certain achievements have also been attained. Our doctors in the Department of Neurology of Ex-Peking Hop'ing Hospital under the supervision of Soviet specialist A. B. Gol'batsevich have extended their research in this respect. The results of their studies appeared in the national literatures included: (1) "Studies on the Conditioned Motor Reflex in Neurological Diseases" (1954) which reported that in 40 neurological cases, 34 were found to have a weakened inhibitory process; 4 with unstable positive reactions; and 2 with no significant experimental findings, the experimental condition became better as the symptoms improved; (2) "Preliminary Observations on the Studies of Higher Nervous Activity by Cortical Potential Determinations" (1955). The author studied the formation and generalization of conditioned reflex in man, centered on the differentiation and localization reciprocally induced brain wave rhythm, as well as observed the reciprocity of the two signal systems; (3) "Studies on the Motorial Conditioned

Reflex in Neurasthenia" (1955), the report of a special study on the internal inhibition of 24 neurasthenic patients. It was found that there were improper conducting functions, over the limit inhibitions, weakened inhibiting processes as well as post-inhibitory actions, etc.; and (4) "The use of Electroencephalography in the Studies of Neurasthenia" (1957). In 43 neurasthenic cases of various stages, there were irregularities in alpha rhythm, reactional delay, basic frequency of theta [?] rhythm or unstable basis, alpha index less than 75%, voltage lower than 25 microvolts, and uneven baseline with abnormal reactions. In Nanking Hua-tung psychiatric Hospital, studies and observations have also been carried out on speech motor experimentations on patients with functional diseases (1958). In other places such as the Psychological Specialty of Peking University and the Department of Neurology and Psychiatry of Hu-nan Medical College, similar studies and papers have also been reported. Although the work in these aspects is admittedly inadequate, it after all has already been started and brought forth to our neurological workers a truly objective method of examination--a physiological method of observation and study of neurological patients.

Considerable achievement has also been attained in respect to the application of Pavlov's sleep treatment. In 1953 the Clinical Department of the Military Medical College No 1 reported that in the sleep treatment of 47 neurotic patients, 8 recovered, 29 improved and non-effective in 10 cases. In 1955 the ex-Peking Soviet Red Cross Hospital employed sleep treatment in 32 cases of chronic neurological diseases. Among them, 7 recovered, 7 with distinct improvement, 8 with improved symptoms and non effective in 10 cases. In 1954 when they began to employ sleep treatment in the Ex-Peking Ho-p'ing Hospital, they constructed a sleep recording machine which helped in recording the duration of sleep. Others such as the Department of Neurology of Ch'eng-tu Ssu-ch'uan Medical College, also started to employ sleep treatment and found that prolonged physiological sleep had less side effects and was more effective than the continuous sleep treatment, and that it had an effective rate of 80% in neurosis (1957). The Psychiatric Hospital of Peking Medical College obtained a lower effective rate (45.5%) in their treatment of neurasthenia during the decline of the excitement stage. It thereby indicated that patient must be selected for sleep treatment,

cause of the disease and combined treatment should also be taken into consideration. Sleep treatment has already been practiced in many of our hospitals not only for neurological diseases but also with certain effects in diseases of other systems. These have undoubtedly supplied many more effective methods in the treatment of neurological diseases.

Electronarcosis based on V. A. Gilyarovskii's principles has been extensively used in Peking, Shanghai and Mukden. In the department of Neurology, Shanghai Medical College No 2, 174 cases of neurosis were treated with an effective rate of over 80% (1956). In the report by the Shanghai Psychiatric Hospital on 120 neurasthenia cases treated, 1 person (11%) [?] reported cured; 37 (31%) distinctly improved; 35 (29%) better; and 35 (29%) not affected (1956).

Finally, in the treatment of neurosis our capitalist neurologists over-stressed the objective causes of the disease and neglected the brain itself, the cortical inhibition on the nervous activity. Hence there was no sympathy toward the patients under treatments. With idealistic nihilism they allow the patients themselves to be completely responsible for their own treatment,



let the patients conquer the disease subjectively and over emphasized rest. The Soviet specialists' viewpoint was entirely different. They believed that neurosis could be the result of many causes, which is to say, the result of the nervous activity of the cortex being inhibited by ultra strong stimulations. Therefore in treatment, the cause of the disease should be treated with the intention of removing the various unfavorable stimulations. At the same time, the cortical function should be regulated with the use of bromides, physiotherapy and if indicated, short periods of rest and exercises, etc. They objected the unhealthy belief of "Over work can result in neurasthenia". They believed that it was confusion in work that brought a heavy responsibility to the nervous system and pointed out that work should be properly managed and life should be regulated. In the Neurology Department of Peking Sino-Soviet Friendship Hospital, 430 cases of various types and stages of neurosis were treated according to their cortical functions by drugs, physiotherapy and talk therapy. Proper suggestions were given gauged by the patient's emotional state, life and working conditions. Among them, 10 (2.3%) were cured; 75 (17.4%) improved and non-effective

in 24 (5.6%) cases (1958). Moreover, in the course treatment of 200 cases of neurosis of different stages utilizing various kinds of hydrotherapy, 8% showed distinct improvement, 72% improved and 20% showed no response. They have brought forth new and effective management in the treatment of neurosis.

Our neurological workers have pioneeringly enriched neurological disease treatment based on Pavlov's theory. The Nanking Psychiatric Hospital has started a group psychiatric treatment of neurasthenias. The cause of the disease, disease process and ways of self management were explained to the patients together with suitable drug therapy. Observations on 500 neurasthenia cases after 3 months of treatment showed that basic symptoms disappeared in 22%; major symptoms disappeared in 62%; and non effective in 16% (1955). Leng Yen had treated neurasthenic patients with intravenous novocaine. Follow up in 6 months showed that 44 of the 66 cases were cured. This method has since been extended in China throughout the country. During the big leap in 1958, the Psychiatric Hospital of Peking Medical College and Psychology Institute of China Academia Sinica cooperated in the 4-week rapid treatment of 80 neurasthenic

students from Peking University. They employed electro-narcosis, electric stimulation, novocaine injection, hypoglycemia as well as traditional acupuncture and moxibustion, and bunched-needle acupuncture treatment. In addition, patients activities, work and exercise, etc. were properly regulated. With the motto "Under the government's command, neurasthenia must be conquered" patients were doctinated with knowledge of neurasthenia in every respect and the <sup>effective</sup> rate reached 93.7%. Among these, 52.5% (27.5% cured) were cured or fundamentally cured; 28.7% distinctly improved; 12.5% improved; and 6.3% slightly improved. These therapeutic procedures coincided with the "plentiful, speedy, good and economical" policy of our socialism construction. It would be one of our neurologists' greatest achievements if this could be better employed in the clinics.

2. In regard to the study on Soviet therapeutic techniques: Tissue therapy, auto-blood treatment as well as various physical treatment have become a part of the combined therapy. According to the 1951 report of the Medical Department of the Ministry of Health, Central People's Government, tissue therapy was effective in 538 cases out of 745 neurasthenia

cases treated, i. e. 72.21%. In 355 cases of various types of neuralgias, <sup>an</sup> effect was obtained in 246 (i. e. 69.29%). The Neurology Department of Peking Union Hospital also reported similar results (1953) in tissue therapy on neurasthenias.

In the combined treatment of neurological diseases of organic nature, drugs such as proserine, dibazole, eserine and vitamin B<sub>12</sub> as well as the various types of physiotherapy including therapeutic drills, etc. were all found to be distinctly effective. The result of the ex-Peking Soviet Red Cross Hospital on 44 cases of encephalomyelitis, <sup>myelitis</sup> and post-myelitis diseases treated with 9 cured, 7 distinctly improved and 8 with little or no effect, was a good example of this problem. These disease entities were formerly believed to be very difficult to manage (1958). Intravenous urotropine treatment of non-pyogenic infections of the nervous system was also found to be quite effective.

The effect of irradiations in the treatment of infections of the nervous system and pain syndrome was also comparatively good. According to the preliminary results of 100 poliomyelitis cases treated by the Neurological Department of ex-Peking Soviet Red Cross Hos-

pital, the effective rate reached 76% (1955). Irradiations and such others as antibiotics, urotropine, proserine and dibazole as well as physiotherapy used in the treatment of 9 cases of esotropia, basilar; 3, posterior cranial fossa; and 15 spinal arachnoiditis resulted in good effects in 19 cases (70%) (1956). In 80 cases of lumbosacral nerve root inflammations of various stages, employment of vitamin B<sub>1</sub>, B<sub>12</sub>, strychnine nitrate, proserine, dibazole and the various physiotherapies resulted in better effects in 65 cases (1956), and vitamin B<sub>12</sub> has already become a frequently used effective drug in diseases of the peripheral nerves.

In the study of Soviet medical techniques, Peking Sino-Soviet Friendship Hospital employed Brodskii's solution in the treatment of epileptic grand mals. According to the preliminary observations on 60 patients (most of them were given luminal and diphenylhydantoin sodium tablets without much effect), 20 showed distinct reductions in the number of seizures, 32 with less seizures and non-effective in 8. The effective rate reached as high as 85% (1958). In 1957 the Neurological Department of the same hospital employed M. A. Panasyuk's method of intraspinal penicillin in the

treatment of cavitory myelitis. Preliminary observations showed that 2 of the patients treated noticed a lowering of the inhibition level with the disappearance of Chui-t'i-cheng (attacks) of the lower extremities and improved muscle tones. Four patients noticed a decreased numbness and pain sensation in the involved extremities, better movements and increased muscle tones. There were no changes in one case and in another, treatment was interrupted because of reactions, and no further treatment was given due to insufficient drug supply. Among the 16 cases of Parkinson's syndrome treated with Soviet drug tropacine, 15 showed reduced tremors, improved motor activity as well as various degrees of decreased muscular tension, etc.

Our neurologists in the past believed that there was no multiple sclerosis in China. Under the guidance of Soviet specialists, the Department of Neurology of ex-Peking Soviet Red Cross Hospital diagnosed clinically and reported 5 comparatively typical cases (1955). The Department of Neurology of Shanghai Medical College No 1 also reported on one case in which the pathological changes more or less coincided with multiple sclerosis. Later in Shanghai, another 5 cases were reported.

Recently the Department of Neurology of Peking Medical College proceeded in diagnostic examinations with Marullis-Shubladze's vaccine and confirmed that this disease definitely existed in China. All of these indicated that the deductions and diagnoses made by these specialists were accurate.

## V

Although we have attained tremendous achievement in the study of Soviet medicine, the accomplishment, however, was not without defects. Up to the present, neurology in China under the principal guidance of Pavlov's theory, has still in some respects maintained the remains of Wilson's theory, the incapacious morphological localizations and Fu-le-i-teh's ideas. Some of our neurologists also over-estimated the role heredity played in neurological disease processes. In their treatment, fatalism or ideas of nihilism still more or less existed. Therefore, the active struggle against these idealistic thoughts has hereafter become the responsibility of China's neurological workers. Moreover, extensive and more advanced studies of Soviet medicine are still lacking and there are not enough original achievements

or clinical applications of theories. We must rapidly conquer these defects, give conclusions on the studies as they progress, and combine Soviet experience with our material development to reach a more extensive and advanced standing. At this great Tenth Anniversary of our country, we extend our sincere gratitude to the Soviet Party and government as well as the specialists who helped us to attain these glorious achievements.